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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/660,226	09/12/2000	Satoru Komatsu	FUSA17.732	6178

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EXAMINER

SWICKHAMER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 11/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/660,226

Applicant(s)

KOMATSU ET AL.

Examiner

Christopher M Swickhamer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 5, 6, 16 and 17 are objected to because of the following informalities: The claims use the terms *preserving*, *preserved* and *preservation*. Using the verb “store” would be a better word choice to agree with accepted terminology in the art. While computers do “preserve” data, this concept is usually denoted by the word “store.” Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Regarding claims 5 and 16, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). The claims will be examined ignoring the phrase “such as the packet loss rate.”

- Claims 5 and 16 are indefinite since the order of occurrence of the claimed events does not make functional sense. The claims state preserving a packet loss rate of a call that has ended in the first step and in the quality evaluation means. The first step and the quality evaluation means are used to determine the quality along a route from the calling station to the called

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station. This determination of quality is measured before the connection is set up. It is therefore impossible to preserve a packet loss rate for a call that has not yet occurred.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 9-13 and 20-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Farris et al (USP 2003/0198218, hereafter Farris).

- Referring to claims 1 and 12, Farris discloses a communication device connection method for connecting a call originating terminal to a call terminating terminal via an IP network (abstract), comprising: a first step of evaluating communication quality along a route through the IP network from a switching system on an originating side to a switching system on a terminating side when a call originate request has been issued to connect the originating terminal to the terminating terminal via the IP network (paragraph [0049]); a second step of connecting the originating terminal and the terminating terminal if the communication quality is good (greater than a threshold); and if the communication quality is bad (less than a threshold), a third step of controlling connection of the communication device in accordance with a command from the caller or controlling connection of the communication device by selecting a route other than

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the first-mentioned route automatically in accordance with a determination made by a switching system (selecting a route through the voice network, paragraph [0049]-[0050]).

- Referring to claims 2 and 13, Farris discloses the method according to claims 1 and 12, wherein said first step includes the steps of: sending a test packet from the switching system on the originating side to the switching system on the terminating side via the route through the IP network before a channel is established; sending an ACK packet from the switching system on the terminating side to the switching system on the originating side in response to receipt of the test packet; measuring, at the switching system on the originating side, delay time from sending of the test packet to receipt of the ACK packet; and determining whether communication quality is good or bad based upon a comparison of length of the delay time and length of a set time (paragraph [0049]).

- Referring to claims 9 and 20, Farris discloses the method according to claims 1 and 12, wherein in a case where connection of the communication device is controlled in accordance with a command from the caller, one of the following control operations is instructed by a command from the user: (1) connection control via the above-mentioned route; (2) connection control via an alternative route through the IP network; (3) connection control through another route via a network other than the IP network; and (4) transmission disconnect control (paragraph [0022]).

- Referring to claim 10, Farris discloses the method according to claim 1, wherein in a case where connection of the communication device is controlled in accordance with a determination made by the switching system, the system selects an alternative route through the IP network or another route within a network other than the IP network (voice network) and

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connects the originating terminal and the terminating terminal via the route selected (paragraph [0022]).

- Referring to claims 11 and 21, Farris discloses the method according to claims 1 and 12, wherein said third step further includes the steps of: establishing beforehand by agreement with a subscriber, if communication quality is bad, whether (1) connection of the communication device is to be controlled in accordance with a command from the caller (user perception of poor quality) or (2) connection of the communication device is to be controlled by selecting a route automatically in accordance with a determination made by the system (threshold comparison); and controlling connection of the communication device based upon the agreement with the subscriber if the communication quality is bad (paragraph [0022]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 5-7, 14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farris in view of Iwama et al (USP 6,600,735, hereafter Iwama)

- Referring to claimed 3 and 14, Farris discloses the method according to claims 2 and 13, but does not expressly disclose wherein said first step further includes the steps of: setting beforehand, in conformity with the system, whether the determination as to whether communication quality is good or bad is to be performed every call or every several calls; if the

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determination is to be performed every several calls, storing results of evaluation of communication quality every several calls; and performing the determination as to whether communication quality is good or bad with regard to a new call by referring to the results of evaluation of communication quality that have been stored. The frequency at which the quality of the calls is monitored is design choice. Iwama discloses a system with a traffic monitor that keeps track of network information regarding throughput, error rates, availability, etc. (col. 13, lns. 15-35). The system of Farris could be modified where the system monitors the call quality on every call, or every several calls, and the system keeps track of historical network conditions when selecting a path. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the system of Farris with keeping network history information, as well as monitoring the call quality only once every several call. One of ordinary skill in the art would have been motivated to do this since sending packets to determine the round trip time of the along a network path further adds to network congestion. By using historical network conditions, less control data is placed on the network. Therefore a higher percentage of transmitted data is user data.

- Referring to claims 5-7 and 16-18 as best understood by the Examiner, Farris discloses the method according to claims 1 and 12, but does not expressly disclose wherein said first step further includes the steps of: preserving communication-quality data such as packet loss rate that prevailed during a call after the call ends; and determining whether communication quality is good or bad by referring to the communication-quality data that has been preserved, wherein the communication-quality data is preserved for every route and for every day of the week and time period, wherein the communication-quality data is accumulated for every route and whether

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communication quality is good or bad is determined by referring to a value obtained by statistically processing the communication-quality data that has been accumulated. Iwama discloses a system that uses a traffic collection unit that monitors traffic conditions, wherein traffic patterns are stored based on the time-of-day, and information is stored on the variance of delay (statistically processing accumulated data, col. 13, lns. 15-35). Networks typically have devices that monitor traffic conditions, such as congestion, packet loss rates, etc. The system of Farris could be modified to include a traffic collection unit for storing information on network traffic conditions based on the time-of-day, and statistically processes information related to delay. This information is used to determine how the measured delay compares against historical network conditions. Based on this information on network conditions, the system would decide over which path to route the calls. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the system of Farris, with a system that maintains information on network traffic conditions. One of ordinary skill in the art would have been motivated to do this since the information could be used to determine how the measured delay compares to historical conditions in the network. This comparison could be used to determine whether a connection over the Internet would be severely affected by network traffic.

8. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farris in view of Schuster et al (USP 6,512,761, hereafter Schuster).

- Referring to claims 4 and 15, Farris discloses the method according to claims 2 and 13, but does not expressly disclose wherein said first step further includes the steps of: setting

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beforehand, in conformity with the system, capacity of a single test packet and test-packet transmission count; accumulating delay time with regard to each test packet; and determining whether communication quality is good or bad based upon a comparison of an average value of accumulated delay time and length of a set time. Schuster discloses a system that measures the quality of a voice network based upon the average delay of a group of test packets (col. 12, lns. 11-33). The system of Farris could be modified to send a group of "ping" packets to determine the average round-trip delay to determine if the average of the group is less than the threshold. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the system of Farris, with taking an average of test packets to determine the voice quality based on whether the average is below a threshold. One of ordinary skill in the art would have been motivated to do this since using an average delay gives a better understanding of network conditions. A single packet may be lost, or may be sent to a temporarily congested network device that is not representative of the network conditions. Using an average would prevent a call from being unnecessarily sent to the voice network. This reduces the chances of a "ping" packet from being lost and therefore making an incorrect decision based on incorrect data on network conditions by sending multiple packets to measure an average delay.

9. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farris.

- Referring to claims 8 and 19, Farris discloses the method according to claims 1 and 12, but does not expressly disclose wherein in a case where connection of the communication device is controlled in accordance with a command from the caller, the fact that communication quality is bad is output by voice from the originating terminal to so notify the caller. The system of

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Farris automatically sends the call to the voice network when the call quality is below a threshold (paragraph [0022]). Transmitting a voice signal to a user for selecting an option from a menu is well known in the art. The system of Farris could be modified to transmit a voice announcement to the user when the call quality is below a threshold to notify the caller of the poor quality, and to ask the user for permission to transfer the call to the voice network. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the system of Farris, with a voice announcement indicating the poor voice quality over the Internet. One of ordinary skill in the art would have been motivated to do this since using the voice network often incurs higher rates for service. This would allow the user the option of deciding whether to end the call, or agree to the higher cost of using the voice network.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Mizuta et al, USP 6,584,110. *Voice Gateway and Route Selection.*
- Fitzgerald, USP 6,466,548. *Hop by Hop Quality of Service Measurement System.*
- Hardy, USP 6,370,120. *Method and System for evaluating the quality of packet-switched voice signals.*
- Belzile, USP 6,253,249. *Method and Devices for Bridging Data and Telephone Networks.*

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M Swickhamer whose telephone number is (703) 306.4820. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305.3900.

CMS
November 4, 2003



HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
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